

2015

The Experience of Information Literacy in Evidence-Based Practice (EBP) Among Professional Nurses in the Ho Municipality of Ghana

Dominic Dankwah Agyei

University of Health and Allied Sciences, Ho, dadankwah@uhas.edu.gh

Christian Yaw Kofi

University of Health and Allied Sciences, Ho, cykofi@uhas.edu.gh

David Fiankor

Ho Polytechnic, mfiankor@yahoo.com

Hawa Osman

University of Health and Allied Sciences, Ho, hosman@uhas.edu.gh

Follow this and additional works at: <http://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#), and the [Nursing Commons](#)

Agyei, Dominic Dankwah; Kofi, Christian Yaw; Fiankor, David; and Osman, Hawa, "The Experience of Information Literacy in Evidence-Based Practice (EBP) Among Professional Nurses in the Ho Municipality of Ghana" (2015). *Library Philosophy and Practice (e-journal)*. 1236.

<http://digitalcommons.unl.edu/libphilprac/1236>

The Experience of Information Literacy in Evidence-Based Practice (EBP) Among Professional Nurses in the Ho Municipality of Ghana

Abstract

Purpose: This study aims to find out the information literacy competence of professional nurses in the Ho Municipality of Ghana in their pursuit of Evidence-Based Practice (EBP).

Design/methodology/approach: This study used the descriptive research strategy to describe the experience of information literacy among professional nurses in the Ho Municipality of Ghana. It used the purposive sampling method to select the various health facilities and the professional nurses. A total of 138 questionnaires out of 151 questionnaires that were administered were retrieved. The responses were presented and analysed based on the objectives of the study.

Findings: The study discovered that nurses perceive EBP as good; and are privy to various information sources and resources but have some limitations that hinder the efficient and effective adoption of EBP in their profession.

Research limitations/implications: Time constraints could not allow the researcher to cover all the professional nurses in the Municipality.

Practical implications: The study recommends the introduction of information literacy course in the curriculum of the various nursing colleges/schools; the establishment of resourced libraries and information centres in the major health facilities; organisation of workshops on information literacy and EBP for practising nurses; subscription of medical databases by the major health facilities; and the encouragement of nurses to develop the culture of reading.

Originality/value: This paper justifies a recognized need to study the information literacy competence of nurses in their pursuit of EBP.

Introduction

Medical and health care is one of the most dynamic human disciplines, and large amounts of money are spent annually on high-quality and sophisticated research, resulting in exponential growth in health care literature (Majid *et al.*, 2011). This phenomenon, most often, arises because there is always new and more effective medicines, medical devices and procedures invented which require new research to investigate their use, efficacy, and effects on their subjects. According to Majid *et al.* (2011) one major objective behind this investment in high-quality and sophisticated research is to help doctors, nurses, and medical technicians to provide the best possible care and treatment to patients. Again Nursing practice is based on a mixture of research, anecdote, tradition, theory and hunch; and that the education of nurses has tended to reinforce the 'ritual' by placing high value on traditional scientific authority and adherence to well-established clinical protocols and routine practices (Taylor *et al.*, 2011; Shorten *et al.*, 2001). Majid *et al.* (2011) substantiate this assertion by stressing that aside traditional and well established procedures and practices, health care practitioners are adopting innovative interventions that are based on best practices as well as solid research-based evidence. The importance of research in practice is again underscored by Sackett *et al.* (1996) who postulate that good doctors (nurses) use both individual clinical expertise and the best available external evidence, adding the neither alone is enough. Without clinical expertise, practice risks becoming tyrannised by evidence, for even excellent external evidence may be inapplicable to or inappropriate for an individual patient. Without current best evidence, practice risks becoming rapidly out of date, to the detriment of patients.

The tendency of health care practitioners adopting interventions that are research based is a key attribute of Evidence-Based Practice (EBP) and it is quickly gaining popularity due to its potential to effectively handle clinical issues and provide better patient care (Majid *et al.*, 2011). Evidence-based medicine according to Jacobs *et al.* (2003) is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. In the same way, EBP is seen as the integration of best research evidence, clinical research, and patient values in making decisions about the care of individual patients ("Information Literacy Competency Standards for Nursing," 2014). Taylor *et al.* (2011) define EBP in nursing as a

problem-solving approach of making clinical decisions, using the best evidence available (considered “best” because it is collected from sources such as published research, national standards and guidelines, and reviews of targeted literature). Furthermore, Taylor *et al.* (2011) state that EBP blends both the science and the art of nursing so that the best patient outcomes are achieved. Various researches on EBP suggest it as a key initiative in which clinical practice is based on research evidence. (Ross, 2010; Bailey *et al.*, 2007; Barnard *et al.*, 2005; Shorten *et al.*, 2001). Thus EBP is a development in nursing where clinical practice is informed by research evidence. The advantages of practitioners resorting to EBP are enormous (Majid *et al.*, 2011; Beke-Harrigan *et al.*, 2008) and especially in an era where the patient is privy to many health information. Consequently, the nurse who decides only to resort to traditional methods of practising learnt from school will in no time be questioned by patients who read about their conditions before visiting the hospital.

A demand for safe and efficient health care requires nurses to develop the necessary skills in order to incorporate research findings into practice. Furthermore evidence-based practice necessitates an underlying understanding of how information is organized and accessed (Jacobs *et al.*, 2003), hence competency in information literacy is an essential foundation, a prerequisite to an evidence-based practice and a confident approach to lifelong learning (Shorten *et al.*, 2001). Jacobs *et al.* (2003) also state that an increasing competency in information literacy is the foundation for evidence-based practice and provides nursing professionals with the skills to be literate consumers of information. To be information literate, the Presidential Committee on Information Literacy of the American Library Association (1989) states that a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. Information literacy has also been defined as the set of abilities that enables one to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information (Association of College and Research Libraries, 2002). According to Connie (2011) the Medical Library Association went further to define Health Information Literacy (HIL) as the set of abilities needed to recognise health information needs, identify likely information sources and use them to retrieve relevant information, assess the quality of the information and its applicability to a specific situation and analyse, understand and use the information to make good health decisions.

The importance of information literacy has been recognised by many including researchers, practitioners and professional groups. As a result, these admirers of the concept have adopted, adapted and implemented the concept of information literacy to produce information literates in their various fields of endeavour. For instance, the information competency standards for nursing is a set of standards that is developed with the sole aim to making the nursing practitioner information literate (“Information Literacy Competency Standards for Nursing,” 2014). As nursing practitioners adhere to this standard, they prepare themselves to be competent in information literacy including an understanding of the architecture of information and the scholarly process; the ability to navigate among a variety of print and electronic tools to effectively access, search, and critically evaluate appropriate resources; synthesize accumulated information into an existing body of knowledge; communicate research results clearly and effectively; and appreciate the social issues and ethical concerns related to the provision, dissemination, and sharing of information (Jacobs *et al.*, 2003). The study employed the descriptive research strategy to explore and describe the experience of information literacy among professional nurses in the Ho Municipality of Ghana.

Statement of the problem

Most nurses, in their efforts to implement EBP have encountered various challenges. Among these challenges is their low information literacy competency. Studies on the information literacy competence of nurses have uncovered that most nurses always assess themselves as information literates, but the conclusions of such studies have always shown that there is much to be done (Majid *et al.*, 2011; Shorten *et al.*, 2001). Again, those who show signs of information literacy competencies are also confronted with challenges like enormous amount of health care literature, published in a variety of sources, which makes it almost impossible for individual practitioners to keep up to date (Majid *et al.*, 2011). This is particularly true as Alper *et al.* (2004) postulate that about 8,000 articles relevant to family practice alone is published monthly, and a family medicine practitioner would need to dedicate approximately 20 hours a day to stay abreast of new evidence. Again, Dalton (2013) states that health care sector faces unique and pervasive challenges, including the working environment, time constraints and the increasing growth in research output within the discipline. While over 12,000 new articles are added to MEDLINE per week (Glasziou, 2008), Sackett and Strauss (1998) estimate that information resources must be accessible within 25.4 seconds for bedside consultations in order to be of any practical use. This

is a great challenge as practitioners' quest for best evidence will eventually require them to spend much time on an ancillary rather than their core duties. Other researchers have reported on lack of time and resources, difficulty in understanding statistical analysis; challenge in understanding and interpreting research findings; inadequate access to information technology, limited IT skills and lack of information searching skills (Dalton, 2013; O'Connor and Pettigrew, 2009; Nail-Chiwetalu and Ratner, 2006; McKenna *et al.*, 2004; Griffiths *et al.*, 2001; Young and Ward, 2001) as other revealing challenges to information literacy in EBP.

Various studies that have been undertaken to assess nurses' perception on EBP have revealed that majority of nurses view EBP as positive and that it leads to better patient care (Upton and Upton, 2006) even though Pravikoff *et al.* (2005) assert that the pace of acceptance is slow. The gradual acceptance and continuous use of the practice requires that nursing practitioners gain an underlying understanding of how information is organized and accessed. Hence, competency in information literacy is an essential, although often neglected, foundation for evidence-based practice (Shorten *et al.*, 2001). This is because the information literate nurse has the ability to know when information is needed, what information source will be needed and the skills to retrieve it, evaluate the quality of the information and determine its applicability to a specific case and eventually make a good clinical decision.

The situation for practitioners particularly in Ghana is no different given the perceived lack of a well-defined information literacy programme in the curriculum of Nursing Colleges, lack of libraries and information centres in most hospitals, lack of IT infrastructure, and the nurse-patient ratio. As a result of the importance of information literacy in nursing practice and the various challenges that nursing practitioners go through in adopting EBP, it has become urgent that such practitioners are equipped with information literacy skills to enable them to know what, when, how and the where to get information, in order to make the best clinical decisions. The survey was also necessitated by the lack of enough literature in this area especially in the Ghanaian settings, and also the desire to ensure that evidence-based practitioners demonstrate awareness of how to locate, use, manage, synthesise and create information and data in an ethical manner and also have the information skills to do so effectively (SCONUL, 2011). The descriptive research strategy was used to explore and describe the experience of information literacy among professional nurses in the Ho Municipality of Ghana.

Purpose of the study

The purpose of this survey was to find out professional nurses' information literacy competence in their practice of EBP.

Research objectives

The specific objectives of this study were:

1. To establish nurses' attitudes and knowledge of EBP
2. To ascertain nurses' knowledge of information resources and literature searching skills
3. To ascertain nurses' use of information resources and literature searching skills
4. To determine the barriers encountered in information literacy by evidence-based practitioners
5. To find out the benefits of information literacy competency on EBP
6. To make recommendations on how to make nursing practitioners information literates

Theoretical framework

There are various theories and frameworks on information literacy proposed to guide information literacy skills programmes ("Information Literacy Competency Standards for Nursing," 2014; SCONUL, 2011; ACRL, 2002). Basically, these frameworks and standards seek to provide various competencies at conceptualizing information needs, organising information, evaluating information, making effective use of information in problem-solving, critical thinking and lifelong learning. The SCONUL Seven Pillars of Information Literacy (SCONUL, 1999; revised 2011), which has widespread authority and use in the United Kingdom and abroad and the American equivalent, ALA/ACRL's Information Literacy Competency Standards (ACRL, 2002) stress a skills and knowledge combination, and a 'path' which the information literate person follows in the process of successfully applying the skills and knowledge to whatever goal the person has. They help to make an individual develop from a "novice" to an "expert" in information competency. Thus the motive of all these information literacy models is to make individuals, students, researchers, practitioners and all and sundry lifelong learners. A critical study of these models reveals that they are all having a common goal. However, getting a model

that is industry-specific makes it easier for practitioners and researchers in such an industry to adapt, understand and use. As a result, the Information Literacy Competency Standards for Nursing, completed by the Health Sciences Interest Group – Information Literacy (IL) Standards for Nursing Task Force and submitted to the ACRL will guide the objectives, methodology, data collection, data analysis and presentation, discussion of findings and conclusions of this research (“Information Literacy Competency Standards for Nursing,” 2014).

These standards are made of five (5) key statements comprising twenty-three (23) indicators explaining how each of the standards to be achieved; and one hundred and thirty-five (135) outcomes outlining the attributes or characteristics information literate nurses should possess (“Information Literacy Competency Standards for Nursing,” 2014).

The first standard stipulates that the information literate nurse should be able to determine the nature and extent of the information needed. By this, regardless the type of question (being it clinical, academic, or personal), the nurse is required to do some background reading or discussion with others simply to become more familiar with the topic and to be able to formulate an initial question (Nail-Chiwetalu and Ratner, 2006). This almost always will require refinement or revision after the initial exploratory search is performed. The initial stage is the point at which a very global search for resources (e.g., using diagnostic terms such as neoplasm or stuttering) is likely to produce a large array of current information from which the nurse can then narrow his or her focus.

The second standard requires the information literate nurse to access needed information effectively and efficiently. This standard according to Nail-Chiwetalu and Ratner (2006) is surprisingly the most difficult to execute properly in today’s world, given the varied sources of information and abundance of it as well as quicker, self-service access through the Internet. It also appears to be the stage that is ignored most often in recent discussion of the implementation of EBP in our discipline (Pietranton, 2006). This difficulty arises as it is evident that not all practitioners (nurses) know how to obtain information. The nurse’s ability to select the appropriate information retrieval system, search engines, databases, and understanding interfaces (the database screens) is essential (Nail-Chiwetalu and Ratner, 2006). Again, this standard requires the nurse to know how to translate a clinical problem into a searchable question, using

subject headings, searching strategies (using Boolean Logic, truncation, wildcats), refining a question, and all other processes involved in information retrieval.

Evaluation of information is one important attribute that every information literate person should possess. This makes the third standard which requires the nurse to be able to evaluate information and its sources critically and incorporate selected information into knowledge base and value system. Nurses need to understand not all information retrieved from databases is valuable (Nail-Chiwetalu and Ratner, 2006). Again, as Nail-Chiwetalu and Ratner (2006) continue to opine, many databases combine texts and book chapters (non-peer reviewed) with peer-reviewed, professional, non-peer-reviewed, and popular journals and periodicals. In addition, even with the peer reviewed articles, it must be stated that some publications especially those that are free do not undergo such a demanding review process. This standard again requires the nurse to consider the applicability of the evidence in clinical practice.

Furthermore, the fourth standard compels the information literate nurse, individually or as a member of a group, to use information effectively to accomplish a specific purpose. Being able to use information to effectively and efficiently has been described by Nail- Chiwetalu and Ratner (2006) as the heart of EBP. First, one gathers the evidence and then applies it to clinical cases. During this stage, nurses are expected to integrate the retrieved evidence with their clinical expertise, patient preferences, and values in making a decision to change (Taylor *et al.*, 2011). Here, the nurse is expected to bring to bear the knowledge acquired from school, experience gathered on the job, and the preferences of patients.

The last standard requires the information literate nurse to understand many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically. Here, the nurse has to be abreast of issues regarding copyright, security and privacy and cost of the information. Nail- Chiwetalu and Ratner (2006) state that the nurse need to have understanding of privacy and security issues, free versus fee-based access, censorship and freedom of speech, and, even more importantly, intellectual property and copyright so that he or she can use the information ethically.

Literature review

Nurses who are information literates are good candidates for EBP because according to Jacobs *et al.* (2003) an increasing competency in information literacy is the foundation for evidence-based practice and provides nursing professionals with the skills to be literate consumers of information. Majid *et al.* (2014) state that as medical and health care literature is growing exponentially, all health care professionals including nurses, need to possess good searching skills to quickly retrieve current, relevant, and accurate information. Inadequate search skills can result in missing crucial information or retrieving too much information that could cause information overload or anxiety. Such a practice will not be a good foundation for the espousal of EBP where a mistake in decision making can lead to loss of life. As a result, health professionals are expected to base their practice on research evidence and information literacy is believed to be a key component in this process (Bailey *et al.*, 2007; Ross, 2010; Pravikoff *et al.*, 2005; Bernath and Jenkin, 2006). This is also bolstered by Bailey *et al.* (2007) who stresses that it is essential for students training to enter the health professions to become information literate because the drive towards evidence-based practice and care makes it essential that students acquire the skills to become lifelong learners. This practice, will therefore, help practitioners of EBP to be critical thinkers and be in a better position to evaluate and adopt new evidence or research. Barnard *et al.* (2005) further states that the development of information literacy not only facilitates engagement with effective decision making, problem solving, and research, it also enables nurses to take responsibility for continued learning in areas of personal or professional interest.

Taylor *et al.* (2011) outlines the steps in implementing EBP. These steps include asking a question about a clinical area of interest or intervention; collecting the most relevant and best evidence; critically appraising the evidence; integrating the evidence with clinical expertise, patient preferences, and values in making a decision to change; and evaluating the practice decision or change (Taylor *et al.*, 2011). Juxtaposing these steps with the five standards of information literacy outlined above upholds the on-going arguments as all the five steps in implementing EBP are parallel with the five standards of information literacy.

Regardless the numerous benefits that information literacy brings to the practitioners of EBP, Foster (2012) and Majid *et al.*, (2011) believe that not all these practitioners enjoy these benefits. This according to research is due to several reasons. Some researchers attribute this to the lack of

the skills to locate and evaluate information on which to base clinical decisions (Dee and Stanley, 2005; Jacobs *et al.*, 2003; Pravikoff, 2006). Majid *et al.* (2011) also report that time, inability to understand statistical terms, and inadequate understanding of research terminology are some problems inhibiting practitioners from enjoying the benefits information literacy brings. Ross (2010) in a research on Perianaesthesia nurses' perceptions of literature searching skills found out that the three main barriers to finding and using research evidence are: lack of understanding of electronic databases – how they worked and how they were constructed; lack of skills to critique and synthesize the research literature; and difficulty in knowing how and where to access research papers. Ross (2010) further concludes that a barrier to EBP has been identified as a need for improved information literacy and includes recognition of information required and the development of skills for locating, evaluating, and effectively using relevant evidence. Beke-Harrigan *et al.* (2008) therefore sums the ongoing argument by proffering that many nurses provide care based on what they learnt in nursing schools and on their accumulated experiences and neglect other sources of evidence.

Methodology

This study used the descriptive research strategy to explore and describe the experience of information literacy among professional nurses in the Ho Municipality of Ghana. This strategy helped to obtain a snapshot of the information literacy competency of professional nurses (Gravetter and Forzano, 2009). Again, questionnaires were the main data collection instrument for this study. The questions were moulded around the objectives of the survey and also through a review of previous studies on EBP, information literacy and information-seeking behaviour of nurses and other health care practitioners. The population for this study was 247 (all professional nurses in the Ho Municipality of Ghana).

A sample of size of 151 was obtained assuming a confidence level and confidence interval of 95% and 5 respectively (Sample Size Calculator of Creative Research Systems, 2012). To get a fair representation in the various health facilities with professional nurses, 61% of the total number of professional nurses in each health facility was taken. Table 1 shows the total number of professional nurses and those sampled in the Ho Central and Sokode districts. The purposive sampling method was, however, used to select the professional nurses. This was chosen to meet the objectives of this study (McBurney and White, 2010).

Table 1: Names and number of health facilities and professional nurses in the Ho Municipality

Health facility	District	Professional Nurses	Sample Size
Volta Regional Hospital	Ho Central	148	90
Ho Municipal Hospital	Ho Central	68	42
Ho Polyclinic	Ho Central	11	7
Royal Hospital	Ho Central	7	5
Foresight Medical Centre	Ho Central	5	3
Ho Evangelical Presbyterian Clinic	Ho Central	4	2
Miracle Life Clinic	Ho Central	2	1
Mater Ecclesiae Clinic	Sokode	2	1
Total		247	151

Source

e: Ho Municipal Health Directorate**Results**

A 91.3% (138 respondents) response was obtained for the study. Table 2 shows the various health facilities and the corresponding number of respondents.

Table 2: Names of health facilities and the corresponding number of respondents

Health facility	Frequency	Percentage
Volta Regional Hospital	77	55.9
Ho Municipal Hospital	42	30.4
Ho Polyclinic	7	5.1
Royal Hospital	5	3.6
Foresight Medical Centre	3	2.2
Ho Evangelical Presbyterian Clinic	2	1.4
Miracle Life Clinic	1	0.7
Mater Ecclesiae Clinic	1	0.7
Total	138	100.0

Source: Field Data, 2014

Demographic information

The study revealed that 81.3% of the respondents were females and 18.7% were males. A majority of the respondents (43.5%) are those who are new in the profession, having a practicing record of between 0 – 1 years and 9.9% have also been practising for 4 and 5 years.

Nurses' attitude and knowledge of Evidence-Based Practice (EBP)

This section sought to find nurses' understanding of EBP. A greater part of the respondents (64.0%) believe that adoption and implementation of EBP in nursing care and clinical decision is based on: a patient's subjective and objective data; information from textbooks on the case; previous experiences of nurses on similar cases and research findings. Table 3 gives further details of respondents' attitude and knowledge of EBP.

Table 3: Nurses' attitude and knowledge of Evidence-Based Practice (EBP)

Attitude and knowledge of EBP	Frequency	Percentage
Workload prevents nurses from keeping up to date with new evidence	34	24.6
Nurses don't like people challenging their clinical practices	21	15.2
Ebp has only limited usefulness	15	10.9
Prefer traditional methods to new approaches	6	4.3
Most research articles are not relevant to my daily practice	26	18.8

Source: Field Data, 2014

Nurses' skills in performing EBP activities

Series of questions were explored from the respondents to verify their skills in performing EBP activities. Table 4 indicates respondents' skills in performing EBP activities.

Table 4: Nurses' skills in performing EBP activities

Skills in performing EBP activities	Frequency	Percentage
Ability to identify clinical issues/problems	128	92.8
Ability to translate clinical issues/problems into a well-formulated clinical question	104	75.4
Ability to conduct online searches (using databases and web search engines)	89	64.5
Ability to relate research findings to clinical practices and point out similarities and differences	112	81.2
Ability to read a research report and have a general notion about its strength and weakness	95	68.8
Ability to apply an intervention based on the most available evidence	97	70.3
Ability to evaluate the application of intervention and identify areas of improvement	102	73.9

Source: Field Data, 2014

Barriers to EBP activities

The researcher sought to find out if there are some barriers respondents face in EBP activities. Table 5 illustrates the major challenges the respondents face in their pursuit of EBP activities.

Table 5: Barriers hindering the adoption of EBP

Barriers	Frequency	Percentage
Insufficient resources (eg. Databases, books, journals)	119	86.2
Lack of a library or information centres in the hospital	118	85.5
Difficulty in finding time at my workplace to search for and read research articles and reports	99	71.7
Difficulty in judging the quality of research papers and reports	78	56.5
Inadequate understating of research terms used in research articles	76	55.1
Inability to understand statistical terms used in research articles	71	51.4
Inability to properly interpret the results of research studies	68	49.3
Difficulty in determining the applicability of research findings	57	41.3
Inability to translate recommendations of research studies into clinical practice	36	26.1

Source: Field Data, 2014

Training needs of nurses in improving EBP activities

The survey again revealed that there are a number of training that nurses need to know in order to effectively undertake EBP activities. Table 6 is a list of training needs respondents indicated they require with most of them specifying that training in how to conduct literature searches is essentially needed.

Table 6: Training needs of respondents to adopt EBP

Training needs	Frequency	Percentage
Conducting literature searches	128	92.8
Understanding what EBP is	122	88.4
Understanding research and statistical terms and methods	120	87.0
Identifying clinical issues for implementing EBP	118	85.5
Conducting critical appraisal of articles	118	85.5
Applying research recommendations to practice	117	84.8

Source: Field Data, 2014

Information sources used by nurses

The study sought to find out the kind of information resources that nurses often use in their pursuit of EBP. It was revealed that nurses depend on print, electronic and human sources of

information. Tables 7, 8 and 9 clarify the various print, electronic and human sources of information used by the nurses respectively.

Table 7: Print information sources

Print information sources	Frequency	Percentage
Reference books (medical dictionaries, encyclopaedias)	112	81.2
Textbooks	102	73.9
Pamphlets/hand-outs (produced by health care companies, hospitals)	101	73.2
Directives from nurses and midwifery council	95	68.8
Journal articles	44	31.9
Newspapers	38	27.5

Source: Field Data, 2014

Table 8: Electronic information sources

Electronic information sources	Frequency	Percentage
Google searches	102	73.9
Blogs on EBP	52	37.7
Hospital resources	44	31.9
Nursing e-books	33	23.9
Online tutorials provided by professionals associations, medical libraries, and overseas hospitals	32	23.2
Medical databases (CINAHL, POPLINE, MEDLINE)	26	18.8
Electronic medical and nursing libraries	25	18.1
UpToDate and MD Consult	13	9.4
Cochrane Library	7	5.1

Source: Field Data, 2014

Table 9: Human information sources

Human information sources	Frequency	Percentage
Ward colleagues	125	90.6
Nursing supervisor	121	87.7
Nursing management staff	111	80.4
Doctors	105	76.1
Professional friends working in other hospitals and clinics	98	71.0
Nursing research committee/evidence-based nursing group	48	34.8

Source: Field Data, 2014

Literature searching skills of nurses

The study inquired of the search options nurses use while searching online databases and web search engines. The various search options indicated by the respondents are exhibited in table 10.

Table 10: Search options respondents use while searching online databases and web search engines

Search options	Frequency	Percentage
Medical Subject Headings (MeSH)	65	47.1
Quick/basic search	58	42.0
Advanced search	48	34.8
Index browsing (eg. Author, title)	44	31.9
Search limits (publication date, document type, full text, abstract)	38	27.5
Boolean operators (“OR”, “AND”, “NOT”)	25	18.1
Truncations/wildcards (eg. “*”, “?”)	12	8.7

Source: Field Data, 2014

Benefits of information literacy on EBP

Respondents were again asked to agree or disagree if information literacy has any benefits on EBP activities. Most of the respondents either agreed or strongly agreed that information literacy is important as demonstrated in table 11.

Table 11: Benefits of information literacy on EBP

Benefits	Frequency	Percentage
Determining the nature and extent of information needed by nurses	127	92.0
Individually or as a member of a group, use information effectively to accomplish a specific purpose	122	88.4
Understanding the economic, legal, and social issues surrounding the use of information and accessing and using information ethically and legally	120	87.0
Critically evaluating the procured information and its sources	117	84.8
Accessing needed information effectively and efficiently	117	84.8

Source: Field Data, 2014

Discussion

This study has shown that most nurses in the Ho Municipality of the Volta Region of Ghana have positive attitude and knowledge towards EBP as majority of them confirmed the usefulness of EBP and their readiness to adopt it. This is in tandem with Majid *et al.* (2011) who concurred that nurses have positive attitude towards EBP and very consistent with the study of Upton and Upton (2006) and Munroe *et al.* (2008). The survey also scrutinised nurses’ skills in performing

EBP activities. Identifying clinical issues/problems; translating clinical issues/problems into a well-formulated clinical question; conducting searches (using databases and web search engines); relating research findings to clinical practices and pointing out similarities and differences; reading research report and having a general notion about its strengths and weaknesses; and applying interventions based on available evidence were some of the major skills nurses indicated they are good at in their pursuance of EBP. According to Taylor *et al.* (2011) and corroborated by Majid *et al.* (2011) practitioners of EBP should be able to translate clinical issues into clinical questions, relate research findings to clinical problems, and apply interventions based on the available evidence. Thus, the possession of these skills by the nurses is a good indicator for the performance of EBP.

In undertaking EBP activities, the nurses indicated that they face challenges like inadequate understanding of research/statistical terms used in research articles; difficulty in judging the quality of research papers and reports; inability to properly interpret the results of research studies; difficulty in determining the applicability of research findings; difficulty in finding time at their workplace to search for and read research articles and reports; lack of libraries or information centres in the hospitals; insufficient resources (databases, books, journals). These revelations are in tandem with the findings of Majid *et al.* (2011), O'Connor and Pettigrew (2009) and Griffiths *et al.* (2001). Notwithstanding the barriers stated above, it was realised from the study that these practitioners will significantly appreciate the essence of EBP if they are given training in understanding the concept of EBP, training in conducting literature searches, training in conducting critical appraisal of research articles, training in applying research recommendations into nursing practice and training in understanding research and statistical terms and methods. This position strongly proposed by Majid *et al.* (2011) will be necessary because most of these practitioners attended colleges where information literacy and the concept of EBP is not formally taught. Hence such an enterprise of education, be it formal or informal for practitioners will be imperative.

Relevant and current information is one of the mainstays of EBP. As a result knowing the sources of information these practitioners use is crucial. Nurses use information of various sources including print, human and electronic. Print sources ranging from textbooks, hand-outs (produced by health care organisations) and circulars from the health sector are commonly used.

The study also brought to light that majority of the practitioners rarely use journal articles. This could be a major setback for EBP because journal articles provide authoritative and current information which EBP thrives on. Reliance on google as the major electronic source of information is also worrying as the study brought to light that other electronic sources like databases, e-libraries and the likes were seldom used. It was also realised that the nursing professionals again depended heavily on colleagues, superiors and other informal sources for information which was also disclosed in the survey of Majid *et al.* (2011).

Literature searching is one skill that practitioners of EBP must have. It was obvious from the study that an overwhelming majority of the respondents in this study did not know how to use online searching tools like the “advanced search options” in most databases/search engines; index browsing (eg. Author, title and subject); truncation/wildcards (eg. “*”, “?”); Boolean Operators (“OR”, “AND”, “NOT”); search limits (publication date, document type, full text, abstract); and Medical Subject Headings (MeSH). A palpable acknowledgement of the respondents of this study is the immense benefits of information literacy on EBP. This is a major deficiency and a cause for concern because agreeing with Majid *et al.* (2011), inadequate search knowledge and skills can result in missing crucial information or retrieving too much information that could cause information overload and anxiety. These admissions are also coherent with the study of Young and Ward (2001) which identified lack of information searching knowledge and skills as a barrier to implementing evidence-based medicine.

Conclusion and recommendations

The medical and health care sector, like any other sector is dynamic, and still evolving as a result of the large amounts of research. As a result of this, there is the urgent need to equip the practitioners in the sector, especially the nurses, in accessing these researches effectively and efficiently. The study like former studies, found that nurses perceive EBP as good; and are privy to various information sources and resources but have some limitations that hinder the efficient and effective adoption of EBP in their profession. To be able to appreciate the full merits of EBP, there is the need to continuously tackle these problems. Hence a conscious effort by all stakeholders to make nursing practitioners information literates will be ideal. Again, the study recommends the introduction of information literacy course in the curriculum of the various nursing colleges/schools; the establishment of resourced libraries and information centres in the

major health facilities; organisation of workshops on information literacy and EBP for practising nurses; subscription of medical databases by the major health facilities; and the encouragement of nurses to develop the culture of reading.

References

- Alper, B., Hand, J., Elliott, S., Kinkada, S., Hauan, M., Onion, D. and Sklar, B. (2004), "How much effort is needed to keep up with the literature relevant for primary care?", *J Med Libr Assoc*, Vol. 92, No. 4, pp. 429-437.
- American Library Association. (1989), *Presidential Committee on Information Literacy. Final Report*, American Library Association, Chicago.
- Association of College and Research Libraries. (2002), "Information literacy competency standards for higher education, information literacy defined", available at: <http://www.ala.org/acrl/ilintro.html#ildef> (Accessed: October 2, 2014).
- Bailey, P., Derbyshire, J., Harding, A., Middleton, A., Rayson, K. and Syson, L. (2007), "Assessing the impact of a study skills programme on the academic development of nursing diploma students at Northumbria University, UK", *Health Information & Libraries Journal*, Vol. 24, Suppl. 1, pp. 77-85.
- Barnard, A., Nash, R. and O'Brien, M. (2005), "Information literacy: developing life long skills through nursing education", *Journal of Nursing Education*, Vol. 44, No. 11, pp. 505-510, available at: <http://eprints.qut.edu.au/archive/00003689> (Accessed: December 14, 2014)
- Beke-Harrigan, H., Hess, R. and Weinland, J. (2008), "A survey of registered nurses' readiness For evidence-based practice: a multidisciplinary project", *Journal of Hospital Librarianship*, Vol. 8, No. 4, pp. 440-448.
- Bernath, V. and Jenkin, J. (2006), "Evaluation in curriculum development for information literacy: an Australian example using a Canadian questionnaire", in *4th International Lifelong Learning Conference*, Central Queensland University, Yeppoon, Queensland, pp. pp.32-38.
- Connie, T. (2011), "Health information literacy meets evidence-based practice", *Journal of Medical Library Association*, Vol. 99, No. 1, pp. 1-2, available at: www.ncbi.nlm.nih.gov/pmc/critcles/pmc30/66481 (Accessed: December 10, 2014).
- Creative Research Systems. (2012), "Sample size calculator", available at: <http://www.surveysystem.com/sscalc.htm> (Accessed: December 6, 2014).
- Dalton, M. (2013), "Developing an evidence-based practice healthcare lens for the SCONUL Seven Pillars of Information Literacy model", *Journal of Information Literacy*, Vol. 7, No. 1, pp. 30-43. doi:10.11645/7.1.1813

- Dee, C. and Stanley, E. (2005), "Information-seeking behavior of nursing students and clinical nurses: implications for health sciences librarians", *Journal of the Medical Library Association*, Vol. 93, No. 2, pp. 213-222.
- Forster, M. (2012), "The experience of information literacy in nursing practice", *VISTAS: Education. Economy and Community*, Vol. 2, No. 1, pp. 18-29.
- Glasziou, P. (2008), "Information overload: what's behind it, what's beyond it?", *Medical Journal of Australia*, Vol. 189, pp. 84-85.
- Gravetter, F. and Forzano, L. (2009). *Research methods for the behavioural sciences*, 3rd ed., Wadsworth Cengage Learning, Belmont, CA.
- Griffiths, J., Closs, S., Bryar, R., Hostick, T., Kelly, S. and Cooke, J. (2001), "Barriers to research implementation by community nurses", *British Journal of Community Nursing*, Vol. 6, No. 10, pp. 501-510.
- "Information literacy competency standards for nursing: approved by the ACRL Board of Directors, October 2013", (2014), *College Research Library News*, Vol. 75, pp. 34-41.
- Jacobs, S., Rosenfeld, P. and Haber, J. (2003), "Information literacy as the foundation for evidence-based practice in graduate nursing education: a curriculum-integrated approach" *Journal of Professional Nursing*, Vol. 19, No. 5, pp. 320-328.
- Majid, S., Foo, S., Luyt, B., Xue, Z., Yin-Leng, T., Chang, Y. and Mokhtar, I. (2011), "Adopting evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers", *Journal of the Medical Library Association*, Vol. 99, No. 3, pp. 229-236.
- McBurney, D., and White, T. (2010). *Research method*, 8th ed., Wadsworth, Belmont, CA.
- McKenna, H., Ashton, S. and Keeney, S. (2004), "Barriers to evidence-based practice in primary care", *Journal of Advanced Nursing*, Vol. 45, No. 2, pp. 178-189.
- Munroe, D., Duffy, P. and Fisher, C. (2008), "Nursing knowledge, skills, and attitudes related to evidence-based practice: before and after organizational supports", *Medsurg Nursing*, Vol. 17, No. 1, pp. 55-60.
- Nail-Chiwetalu, B. and Ratner, N. (2006), "Information literacy for speech-language pathologists: a key to evidence-based practice", *Language, Speech and Hearing Services in Schools*, Vol. 37, No. 3, pp. 157-167. doi:10.1044/0161-1461(2006/018).
- O'Connor, S. and Pettigrew, C. (2009), "The barriers perceived to prevent the successful

- implementation of evidence-based practice by speech and language therapists”, *International Journal of Language & Communication Disorders*, Vol. 44, No. 6, pp. 1018-1035.
- Pietranton, A. (2006), “An evidence-based practice primer: implications and challenges for the treatment of fluency disorders”, in Ratner, N.B. and Tetnowski, J.A. (Eds.), *Current issues in stuttering research and practice*, Vol. 2, pp. 47-60. Mahwah, NJ: Erlbaum.
- Pravikoff, D. (2006), “Mission critical: a culture of evidence-based practice and information literacy”, *Nursing Outlook*, Vol. 54, No. 4, pp. 254-255.
- Pravikoff, D., Tanner, A. and Pierce, S. (2005), “Readiness of U.S. nurses for evidence-based practice”, *Am J Nurs*, Vol. 105, No. 9, pp. 40-51.
- Ross, J. (2010), “Information literacy for evidence-based practice in perianesthesia nurses: readiness for evidence-based practice”, *J Perianesth Nurs*, Vol. 25, No. 2, pp. 64-70.
- Sackett, D. and Straus, S. (1998), “Finding and applying evidence during clinical rounds”, *JAMA: the Journal of the American Medical Association*, Vol. 280, No. 15, pp. 1336-1338. doi:10.1001/jama.280.15.1336
- Sackett, D., Rosenberg, W., Gray, J., Haynes, R. and Richardson, W. (1996), “Evidence based medicine: what it is and what it isn't”, *British Medical Journal*, Vol. 312, pp. 71-72. doi:10.1136/bmj.312.7023.71
- SCONUL Advisory Committee on Information Literacy. (1999), *Information skills in higher education: briefing paper*, SCONUL, London, available at: http://www.sconul.ac.uk/sites/default/files/documents/Seven_pillars2.pdf (Accessed: November 20, 2014).
- SCONUL Working Group on Information Literacy. (2011), *The SCONUL seven pillars of information literacy core model for higher education*, SCONUL, London, available at: <http://www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf> (Accessed: November 20, 2014).
- Shorten, A., Wallace, M. and Crookes, P. (2001), “Developing information literacy: a key to evidence-based nursing”, *International Nursing Review*, Vol. 48, No. 2, pp. 86-92.
- Taylor, C., Lillis, C., LeMone, P. and Lynn, P. (2011), *Fundamentals of nursing: the art and science of nursing care*, 7th ed., Wolters Kluwer/Lippincott Williams & Wilkins, Philadelphia.

- Upton, D. and Upton, P. (2006), "Development of an evidence-based practice questionnaire for nurses", *Journal of Advanced Nursing*, Vol. 53, No. 4, pp. 454-458.
- Young, J. and Ward, J. (2001), "Evidence-based medicine in general practice: beliefs and barriers among Australian GPs", *J Eval Clin Pract*, Vol. 7, No. 2, pp. 201-210.